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EXAMINER	
RYMAN, DANIEL J	

ART UNIT	PAPER NUMBER
2665	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/591,888	DABAK, ANAND G.	
	Examiner	Art Unit	
	Daniel J. Ryman	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-20,22-34,47-50 and 52-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-20,22-34,47-50 and 52-56* is/are rejected.

7)☒ Claim(s) *4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 9/14/04 have been fully considered but they are not persuasive. On page 11, Applicant argues that De Gaudenzi fails to teach a "spread code arranged as a symbol of the selected code, repeated a selected number of repetitions" and "multiplying the spread code by a scrambling code associated with the base station, wherein the repeated spread code has a length corresponding to a length of the scrambling code."

2. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the rejection, Examiner relies on Scott to teach a "spread code arranged as a symbol of the selected code, repeated a selected number of repetitions." Thus, Examiner does not rely on De Gaudenzi to teach this limitation. De Gaudenzi's teaches "multiplying the spread code by a scrambling code associated with the base station, wherein the spread code has a length corresponding to a length of the scrambling code" (col. 7, lines 30-40). Thus, the combination of Scott and De Gaudenzi teaches "multiplying the spread code by a scrambling code associated with the base station, wherein the repeated spread code has a length corresponding to a length of the scrambling code."

3. Applicant further argues that De Gaudenzi is directed to a completely different purpose than the claimed invention. While De Gaudenzi may be directed to a completely different purpose than the claimed invention, De Gaudenzi is nonetheless valid prior art. First, De Gaudenzi is directed to wireless communication systems, such that there is a nexus linking De

Gaudenzi with the claimed invention. Second, the passages relied on in De Gaudenzi are directed to "practical systems." Thus, the passages cited in De Gaudenzi provide knowledge that is well known in the art. Therefore, De Gaudenzi is properly combinable with the other cited prior art.

4. If Applicant does not traverse the Examiner's assertion of official notice or Applicant's traverse is not adequate, then the common knowledge or well-known in the art statement is taken to be admitted prior art because Applicant failed to traverse the Examiner's assertion of official notice or that the traverse was inadequate (see MPEP §2144.03(c)).

Claim Objections

5. Claim 4 is objected to because of the following informalities: claim 4 depends on claim 3 where claim 3 has been canceled. Claim 4 should be either amended to depend upon another claim or canceled. Examiner notes that claim 4 and claim 7 contain the same limitations, such that claim 4 should not depend upon claim 1. For the purposes of prior art rejections, Examiner will interpret claims 4 and 7 to be the same claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 4-9, 20, 22, and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Scott et al. (USPN 6,154,486) in further view of De Gaudenzi et al. (USPN 6,466,566).

8. Regarding claims 1 and 20, Applicant admits as prior art a method of operating a wireless communications unit to request a connection with a base station and a unit for performing the method (page 2, line 12-page 4, line 5), comprising the steps of and means for: receiving, from the base station, a signal indicating at least one time slot within which a preamble may be transmitted by the wireless communications unit (page 2, line 12-page 4, line 5); selecting one of a plurality of orthogonal codes for the preamble (page 2, line 12-page 4, line 5); generating a spread code using the selected orthogonal code (page 2, line 12-page 4, line 5); and transmitting, to the base station, a preamble signal corresponding to the spread code (page 2, line 12-page 4, line 5).

Applicant does not admit as prior art that the spread code is an orthogonal code repeated a selected number of repetitions. Scott teaches, in a wireless transmission system, having the spread code (preamble) be an orthogonal code repeated a selected number of repetitions (col. 3, lines 58-60; col. 25, lines 33-44; and col. 51, lines 54-58) in order to provide a preamble code that allows for rapid synchronization at the receiver (col. 3, lines 4-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the spread code be an orthogonal code repeated a selected number of repetitions in order to provide a preamble code that allows for rapid synchronization at the receiver.

Applicant in view of Scott does not expressly disclose multiplying the spread code by a scrambling code associated with the base station, wherein the spread code has a length corresponding to a length of the scrambling code. De Gaudenzi teaches, in a wireless communication system, that many practical systems make use of sequences composed of a unique internal sequence and an external sequence (col. 7, lines 30-40) where it is implicit that

the internal sequence (spread code) is used to identify the mobile unit and the external sequence is used to identify the base station. De Gaudenzi also discloses that the spread code has a length corresponding to length of the scrambling code (De Gaudenzi: col. 7, lines 30-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to multiply the spread code by scrambling code associated with the base station, wherein the spread code has a length corresponding to length of the scrambling code in order to have a way to identify the base station.

9. Regarding claims 4, 7, and 22, referring to claims 1 and 20, Applicant's admitted prior art in view of Scott in further view of De Gaudenzi discloses that the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes (De Gaudenzi: col. 7, lines 30-40).

10. Regarding claims 5 and 6, referring to claim 4, Applicant's admitted prior art in view of Scott in further view of De Gaudenzi does not expressly disclose that the set of Walsh Hadamard codes consists of the set of Walsh Hadamard codes having a length of sixteen; wherein the generating step repeats a symbol of the Walsh Hadamard code 256 times or 240 times; and wherein the length of the scrambling code is 4096 chips or 3840 chips, respectively. Applicant's admitted prior art in view of Scott in further view of De Gaudenzi does disclose that the set of codes have a certain length (Scott: col. 3, lines 58-60; col. 25, lines 33-44; and col. 51, lines 54-58 and De Gaudenzi: col. 7, lines 30-40), that the scrambling code has a certain length (De Gaudenzi: col. 7, lines 30-40), and that the spread code and the scrambling code have equal length (De Gaudenzi: col. 7, lines 30-40). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing

criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Scott in further view of De Gaudenzi disclose that the set of codes have a certain length, that the scrambling code has a certain length, and that the spread code and the scrambling code have equal length, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any length for the Hadamard codes, including sixteen, to use any length for the scrambling code, including 4096 and 3840, and to repeat the Hadamard code a number of times such that the Hadamard code and the spreading code are equal (here, 256 times or 240 times).

11. Regarding claim 8, referring to claim 1, Applicant's admitted prior art in view of Scott in further view of De Gaudenzi discloses that the selecting step comprises executing a pseudo-random selection algorithm (Applicant: page 2, line 12-page 4, line 5).

12. Regarding claim 9, referring to claim 1, Applicant's admitted prior art in view of Scott in further view of De Gaudenzi discloses that the receiving step receives a signal indicating a plurality of time slots within which the preamble may be transmitted by the wireless communications unit (Applicant: page 2, line 12-page 4, line 5); and further comprising: selecting one of the plurality of time slots for transmission of the preamble (Applicant: page 2, line 12-page 4, line 5).

13. Regarding claim 25, Applicant admits as prior art a method of generating a preamble, comprising the steps of: selecting a first code from a plurality of orthogonal codes (page 2, line 12-page 4, line 5).

Applicant does not admit as prior art repeating the first code a plurality of times to produce a spread code having a predetermined length. Scott teaches, in a wireless transmission system, repeating a first code a plurality of times to produce a spread code (preamble) having a predetermined length (col. 3, lines 58-60; col. 25, lines 33-44; and col. 51, lines 54-58) in order to provide a preamble code that allows for rapid synchronization at the receiver (col. 3, lines 4-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to repeat the first code a plurality of times to produce a spread code having a predetermined length in order to provide a preamble code that allows for rapid synchronization at the receiver.

Applicant's admitted prior art in view of Scott does not expressly disclose multiplying the spread code by a second code having the predetermined length. De Gaudenzi teaches, in a wireless communication system, that many practical systems make use of sequences composed of a unique internal sequence and an external sequence where the internal and external sequences are of the same length (col. 7, lines 30-40) and where it is implicit that the internal sequence (spread code) is used to identify the mobile unit and the external sequence is used to identify the base station. It would have been obvious to one of ordinary skill in the art at the time of the invention to multiply the spread code (internal code) by a second code (external code) having the predetermined length in order to have a way to identify the base station.

14. Regarding claim 26, referring to claim 25, Applicant's admitted prior art in view of Scott in further view of De Gaudenzi discloses that the orthogonal codes are Walsh Hadamard codes corresponding to users in a wireless cell (De Gaudenzi: col. 7, lines 30-40).

15. Regarding claim 27, referring to claim 26, Applicant's admitted prior art in view of Scott in further view of De Gaudenzi discloses that the second code is a scrambling code corresponding to a wireless cell (De Gaudenzi: col. 7, lines 30-40).

16. Regarding claim 28, referring to claim 25, Applicant's admitted prior art in view of Scott in further view of De Gaudenzi discloses that a product of the plurality of orthogonal codes and the plurality of times the first code is repeated is equal to the predetermined length (De Gaudenzi: col. 7, lines 30-40).

17. Regarding claim 29, referring to claim 25, Applicant's admitted prior art in view of Scott in further view of De Gaudenzi does not expressly disclose that the set of orthogonal codes is sixteen, the plurality of times the first code is repeated is 256, and the predetermined length is 4096. Applicant's admitted prior art in view of Scott in further view of De Gaudenzi does disclose the use of orthogonal codes (Applicant's admitted prior art: page 2, line 12-page 4, line 5), that the first code is repeated (Scott: col. 3, lines 58-60; col. 25, lines 33-44; and col. 51, lines 54-58), and that there is a predetermined length (De Gaudenzi: col. 7, lines 30-40). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454,

105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Scott in further view of De Gaudenzi discloses the use of a set of orthogonal codes, that the first code is repeated, and the use of a predetermined length, it would have been obvious to one of ordinary skill in the art at the time of the invention to use number of orthogonal codes, including sixteen, to repeat the code any number of times, including 256, and to have the predetermined length be any length, including 4096.

18. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Scott et al. (USPN 6,154,486) in further view of De Gaudenzi et al. (USPN 6,466,566) in further view of Miller (USPN 5,608,722).

19. Regarding claim 10, referring to claim 1, Applicant's admitted prior art in view of Scott in further view of De Gaudenzi suggests operating a base station to process the transmitted preamble, comprising the steps of: receiving the transmitted preamble (Scott: col. 26, lines 8-14); grouping corresponding bits from each of the repetitions of the symbol (Scott: col. 1, lines 41-50 and col. 26, lines 8-14), where, as broadly defined, the bits are processed according to the repetition; and correlating the recovered symbol to identify the selected orthogonal code (Scott: col. 1, lines 41-50 and col. 26, lines 8-14). Applicant's admitted prior art in view of Scott in further view of De Gaudenzi does not expressly disclose de-interleaving bits from the spread code, to group corresponding bits from each of the repetitions of the symbol or despreading the grouped bits to recover a symbol. Miller teaches, in a wireless communication system, that it is well known to interleave bits upon transmission in order to guard against errors (col. 12, lines

11-26). It would have been obvious to one of ordinary skill in the art at the time of the invention to recover the original signal by reversing the process taken to transmit the signal. As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to de-interleave bits from the spread code, to group corresponding bits from each of the repetitions of the symbol. Miller also teaches that it is well known to spread a signal by combining the signal with an external PN sequence in order to properly identify the base station (col. 10, lines 52-65; col. 11, lines 46-51; and col. 11, lines 57-62). Applicant's admitted prior art in view of Scott in further view of De Gaudenzi teaches despreading a received signal using a known PN sequence in order to recover the transmitted signal (Scott: col. 1, lines 43-46). It would have been obvious to one of ordinary skill in the art at the time of the invention to recover the original signal by reversing the process taken to transmit the signal. As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to despread the grouped bits to recover a symbol.

20. Claims 11, 13-15, 17-19, 47-50, and 52-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott et al. (USPN 6,154,486) in view of Miller (USPN 5,608,722) in further view of De Gaudenzi et al. (USPN 6,466,566).

21. Regarding claim 11, Scott discloses a method of operating a base station to recover a preamble code transmitted by a wireless unit, comprising the steps of: receiving a signal corresponding to a preamble (col. 1, lines 41-50 and col. 26, lines 8-14); arranging the signal into a bitstream (col. 1, lines 41-50 and col. 26, lines 8-14) where it is implicit that the signal is handled as a sequence of bits; grouping corresponding bits from each of a plurality of repetitions of a symbol length, into a plurality of groups (col. 1, lines 41-50; col. 3, lines 58-60; col. 25,

lines 33-44; col. 26, lines 8-14; and col. 51, lines 54-58) where, as broadly defined, the bitstream is handled according to the repetitions of the preamble; and correlating the sequence to identify a code, the code corresponding to one of a set of orthogonal codes (col. 26, lines 8-14).

Scott does not expressly disclose de-interleaving bits from the bitstream, to group corresponding bits from each of a plurality of repetitions of a symbol length, into a plurality of groups or despreading the bits of each of the plurality of groups to recover a plurality of symbol bits in a sequence, the sequence having a length corresponding to a length of the preamble code. Miller teaches, in a wireless communication system, that it is well known to interleave bits upon transmission in order to guard against errors (col. 12, lines 11-26). It would have been obvious to one of ordinary skill in the art at the time of the invention to recover the original signal by reversing the process taken to transmit the signal. As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to de-interleave bits from the bitstream, to group corresponding bits from each of a plurality of repetitions of a symbol length, into a plurality of groups. Miller also teaches that it is well known to spread a signal by combining the signal with an external PN sequence in order to properly identify the base station (col. 10, lines 52-65; col. 11, lines 46-51; and col. 11, lines 57-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to recover the original signal by reversing the process taken to transmit the signal. As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to despread the bits of each of the plurality of groups to recover a plurality of symbol bits in a sequence, the sequence having a length corresponding to a length of the preamble code.

Scott in view of Miller does not expressly disclose that the bitstream has a scrambling code with a length corresponding to a length of the preamble code. De Gaudenzi teaches, in a wireless communication system, that many practical systems make use of sequences composed of a unique internal sequence and an external sequence (col. 7, lines 30-40) where it is implicit that the internal sequence (spread code) is used to identify the mobile unit and the external sequence is used to identify the base station. De Gaudenzi also discloses that the spread code has a length corresponding to length of the scrambling code (De Gaudenzi: col. 7, lines 30-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the bitstream comprise a scrambling code with a length corresponding to a length of the preamble code in order to have a way to identify the base station.

22. Regarding claim 13, referring to claim 11, Scott in view of Miller in further view of De Gaudenzi suggests responsive to the correlating step identifying a code, initiating a connection with a wireless unit that transmitted the preamble (Miller: col. 10, lines 52-62).

23. Regarding claim 14, referring to claim 11, Scott in view of Miller in further view of De Gaudenzi suggests that the number of groups generated by the deinterleaving step corresponds to the length of the preamble code times a number of segments in the bitstream (number of repetitions times the length of the code) (Scott: col. 1, lines 41-50; col. 3, lines 58-60; col. 25, lines 33-44; col. 26, lines 8-14; and col. 51, lines 54-58 and Miller: col. 11, lines 57-62), where "corresponds" is a broad term which only requires some sort of relationship; wherein the despreading step recovers the plurality of symbol bits into a sequence having a length corresponding to the length of the preamble code times the number of segments (Scott: col. 1, lines 41-50; col. 3, lines 58-60; col. 25, lines 33-44; col. 26, lines 8-14; and col. 51, lines 54-58

and Miller: col. 11, lines 57-62) where "corresponds" is a broad term which only requires some sort of relationship; and wherein the correlating step comprises: correlating each of the corresponding symbol bits from each of the plurality of segments to identify the code (Scott: col. 26, lines 8-14).

24. Regarding claim 15, referring to claim 14, Scott in view of Miller in further view of De Gaudenzi suggests that the correlating step comprises summing the power of the corresponding symbol bits from each of the plurality of segments (Miller: col. 20, lines 20-37).

25. Regarding claims 17-19, referring to claim 14, Scott in view of Miller in further view of De Gaudenzi does not expressly disclose that the number of segments is four, eight, or two, with each segment having sixty-four symbols, thirty-two symbols, or one hundred twenty eight symbols, respectively; however, Scott in view of Miller in further view of De Gaudenzi discloses a segment in the bitstream, since "a segment" can include any number of segments including one (Scott: col. 1, lines 41-50; col. 3, lines 58-60; col. 25, lines 33-44; col. 26, lines 8-14; and col. 51, lines 54-58 and Miller: col. 11, lines 57-62). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Scott in view of Miller in further view of De Gaudenzi discloses at least one segment, any number of segments

and its corresponding number of symbols, would have been obvious at the time of the invention, including four or eight, with each segment having sixty-four symbols or thirty-two symbols, respectively.

26. Regarding claim 47, Scott discloses a method of decoding a preamble from a remote transmitter, comprising the step of: receiving a first number of groups of signals having a second number of signals in each group from a received signal having a predetermined length (col. 25, lines 33-44); and correlating the first number of groups of signals with a code (col. 26, lines 3-14).

Scott does not expressly disclose that the code has the second number of signals repeated the first number of times. Rather, Scott discloses correlating the first number of groups of signals with a code representing a single group of signals such that the system determines that the proper signal is received when the correlator detects a first number of correlation signals (col. 26, lines 3-14). Examiner takes official notice that correlation is well known in the art as a means for determining how closely related an unknown signal and a known signal are. In Scott's system, as broadly defined, the transmitted signal is the first number of groups of signals. As such, as broadly defined, the known signal is the first number of groups of signals. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention that an equivalent method of determining if the unknown signal matches the known signal would be to have the known signal (code) comprise the second number of signals repeated the first number of times. Scott does not expressly disclose that the code corresponds to the remote transmitter. Miller teaches, in a wireless communication network, having a code correspond to a remote transmitter in order to allow identification of the remote transmitter (col. 10, lines 52-62). It would have

been obvious to one of ordinary skill in the art at the time of the invention to have the code correspond to a remote transmitter in order to allow identification of the remote transmitter.

Scott in view of Miller suggests that the data stream comprises a scrambling code, and wherein the method comprises descrambling the data stream (Miller: col. 10, lines 52-62); however, Scott in view of Miller does not expressly disclose that the scrambling code has the predetermined length. De Gaudenzi teaches, in a wireless communication system, that many practical systems make use of sequences composed of a unique internal sequence and an external sequence (col. 7, lines 30-40) where it is implicit that the internal sequence (spread code) is used to identify the mobile unit and the external sequence is used to identify the base station. De Gaudenzi also discloses that the spread code has a length corresponding to length of the scrambling code (De Gaudenzi: col. 7, lines 30-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the scrambling code have the predetermined length in order to have a way to identify the base station.

27. Regarding claim 48, referring to claim 47, Scott in view of Miller in further view of De Gaudenzi discloses that a product of the first and second numbers is equal to the predetermined length (Scott: col. 25, lines 33-44).

28. Regarding claim 49, referring to claim 48, Scott in view of Miller in further view of De Gaudenzi does not expressly disclose that the first number is 256, the second number is 16, and the predetermined length is 4096; however, Scott in view of Miller in further view of De Gaudenzi does disclose having a first number, a second number, and a predetermined length (Miller: col. 12, lines 11-26 and col. 13, lines 35-39 and Scott: col. 1, lines 41-50; col. 3, lines 58-60; col. 25, lines 33-44; col. 26, lines 8-14; and col. 51, lines 54-58). It is generally

considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Scott in view of Miller in further view of De Gaudenzi discloses the a first number, a second number, and a predetermined length, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the first number be any number, including 256, to have the second number to be any number, including 16, and to have the predetermined length to be any length, including 4096.

29. Regarding claim 50, referring to claim 47, Scott in view of Miller in further view of De Gaudenzi discloses that the code is a Walsh Hadamard code (Scott: col. 25, lines 33-44 and Miller: col. 11, lines 3-8).

30. Regarding claim 52, referring to claim 51, Scott in view of Miller in further view of De Gaudenzi discloses that the received signal is a preamble having the predetermined length transmitted from a wireless transmitter to a wireless receiver in a cell, and wherein one of the plurality of codes corresponds to the wireless transmitter, and wherein the scrambling code corresponds to the cell (Scott: col. 25, lines 33-44 and Miller: col. 10, lines 52-62).

31. Regarding claim 53, referring to claim 52, Scott in view of Miller in further view of De Gaudenzi suggests that the code is a Walsh Hadamard code (Miller: col. 11, lines 3-8), and

wherein the scrambling code is part of a Gold code (Scott: col. 10, lines 52-62 and Miller: col. 10, line 49-col. 11, line 8).

32. Regarding claim 54, referring to claim 47, Scott in view of Miller in further view of De Gaudenzi discloses that each group of the first number of groups is substantially identical (Scott: col. 25, lines 33-44).

33. Regarding claim 55, referring to claim 47, Scott in view of Miller in further view of De Gaudenzi suggests despreading the first number of groups of signals, thereby producing a plurality of despread signals (Scott: col. 1, lines 41-50; col. 3, lines 58-60; col. 25, lines 33-44; col. 26, lines 8-14; and col. 51, lines 54-58 and Miller: col. 11, lines 57-62).

34. Regarding claim 56, referring to claim 55, Scott in view of Miller in further view of De Gaudenzi suggests correlating the despread signals with the code having the second number of signals repeated the first number of times (Scott: col. 25, lines 33-44 and col. 26, lines 3-14).

35. Claims 12, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott et al. (USPN 6,154,486) in view of Miller (USPN 5,608,722) in further view of De Gaudenzi et al. (USPN 6,466,566) in further view of Bottomley (USPN 5,237,586).

36. Regarding claims 12 and 23, referring to claim 11, Scott in view of Miller in further view of De Gaudenzi does not expressly disclose that the de-interleaving step comprises: applying the bitstream into a sequence of tapped delay lines; and grouping corresponding taps from each of the tapped delay lines. Bottomley teaches, in a wireless communication system, using tapped delay lines to be able to search for a signal that has an arrival time delay (col. 4, lines 5-18). It would have been obvious to one of ordinary skill in the art at the time of the invention to use tapped delay lines in order to search for a signal that has an arrival time delay.

37. Regarding claim 24, referring to claim 23, Scott in view of Miller in further view of De Gaudenzi in further view of Bottomley discloses that the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes (Miller: col. 11, lines 3-8).

38. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scott et al. (USPN 6,154,486) in view of Miller (USPN 5,608,722) in further view of De Gaudenzi et al. (USPN 6,466,566), as applied to claim 14 above, and further in view of Yoon et al (USPN 5,790,537).

39. Regarding claim 16, referring to claim 14, Scott in view of Miller in further view of De Gaudenzi does not expressly disclose that the correlating step comprises deriving a difference value of the corresponding symbol bits from each of the plurality of segments. Yoon teaches, in a wireless communication system, deriving a difference value of the corresponding symbol bits from each of the plurality of segments as a way to perform correlation (col. 14, lines 60-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to derive a difference value of the corresponding symbol bits from each of the plurality of segments as a way to perform correlation.

40. Claims 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (USPN 5,608,722) in view of Scott et al. (USPN 6,154,486) in further view of De Gaudenzi et al. (USPN 6,466,566).

41. Regarding claim 30, Miller discloses in one embodiment extracting a first number of groups of signals having a second number of signals in each group from the received signal (repeated versions of a signal) (col. 12, lines 11-26) where the first number of groups containing a second number of signals are formed in order to guard against errors. Miller discloses in

another embodiment applying one signal from each repeated group to each respective despreader circuit of a second number of despreader circuits, each despreader circuit producing a respective output signal (Fig. 2 and col. 13, lines 35-39) in order to combine repeated versions of a signal into a single signal, where as broadly defined, the combiner has a second number of circuits, one for each bit of the combined signal. Thus, Miller suggests extracting a first number of groups of signals having a second number of signals in each group from the received signal and applying one signal from each repeated group to each respective despreader circuit of a second number of despreader circuits, each despreader circuit producing a respective output signal in order to properly combine a plurality of repetitions of a signals into a single signal.

Miller does not expressly disclose comparing the second number of output signals to a plurality of codes. Scott teaches, in a wireless communication system, comparing a repeated output signal to a plurality of codes in order to identify the output signal (col. 26, lines 4-14). It would have been obvious to one of ordinary skill in the art at the time of the invention to compare the second number of output signals to a plurality of codes in order to identify the output signal.

Miller in view of Scott does not expressly disclose detecting a scrambling code in a received signal, the scrambling code having a predetermined length. De Gaudenzi teaches, in a wireless communication system, that many practical systems make use of sequences composed of a unique internal sequence and an external sequence (col. 7, lines 30-40) where it is implicit that the internal sequence (spread code) is used to identify the mobile unit and the external sequence is used to identify the base station. De Gaudenzi also discloses that the spread code has a length corresponding to length of the scrambling code (De Gaudenzi: col. 7, lines 30-40). It

would have been obvious to one of ordinary skill in the art at the time of the invention to detect a scrambling code in a received signal, the scrambling code having a predetermined length in order to have a way to identify the base station.

42. Regarding claim 31, referring to claim 30, Miller in view of Scott in further view of De Gaudenzi discloses that a product of the first and second numbers is equal to the predetermined length (Miller: col. 12, lines 11-26 and col. 13, lines 35-39).

43. Regarding claim 32, referring to claim 31, Miller in view of Scott in further view of De Gaudenzi does not expressly disclose that the first number is 256, the second number is 16, and the predetermined length is 4096; however, Miller in view of Scott in further view of De Gaudenzi does disclose having a first number, a second number, and a predetermined length (Miller: col. 12, lines 11-26 and col. 13, lines 35-39 and Scott: col. 1, lines 41-50; col. 3, lines 58-60; col. 25, lines 33-44; col. 26, lines 8-14; and col. 51, lines 54-58). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Miller in view of Scott in further view of De Gaudenzi discloses the a first number, a second number, and a predetermined length, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the first number be any number,

including 256, to have the second number to be any number, including 16, and to have the predetermined length to be any length, including 4096.

44. Regarding claim 33, referring to claim 30, Miller in view of Scott in further view of De Gaudenzi discloses that the plurality of codes are Walsh Hadamard codes (Miller: col. 11, lines 3-8 and Scott: col. 25, lines 33-44).

45. Regarding claim 34, referring to claim 30, Miller in view of Scott in further view of De Gaudenzi discloses producing a signal corresponding to a match between the second number of output signals and one of the plurality of codes (Scott: col. 26, lines 4-14).

Conclusion

46. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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